

Appendix Two: SEPA response to NPF4 Call for Ideas – National Developments

We propose the following national developments as outlined in the following pro formas:

1. [Materials and Resource Management Facilities Network](#)
2. [Zero Carbon Innovation Zones](#)
3. [National Green Network](#)
4. [National Energy Infrastructure](#)
5. [Carbon Capture and Storage](#)



National Developments – Response Form

Name of proposed national development	Material and Resource Management Facilities Network
Brief description of proposed national development	<p>A country-wide network of planned, complementary, full spectrum material and resource management facilities that transforms Scotland’s circular economy and, in so doing, support government’s net zero ambition. This network could propel Scotland’s ability to minimise the use of new, raw materials; and maximise its ability to recycle, reuse, repurpose and reprocess materials currently in use as well as materials currently termed as “waste”. The aims of Scotland’s Zero Waste Plan and the Making Things Last Strategy cannot be fully achieved by individual facilities or types of material management facility planned in isolation from each other. A network of planned, complementary and full-spectrum material management solutions in Scotland could help the country maximise the value in materials, reduce the reliance on new, and fully realise the transformational opportunities of a circular economy.</p> <p>This would have the added benefits of enabling communities to have fair and equal access to secondary and repurposed materials, and minimising carbon and emissions of transporting materials long distances elsewhere to management facilities for repurpose or reprocessing in other parts of the UK or further afield.</p> <p>Creating a network of material and resource management facilities would allow the value of materials and resources to be retained within Scotland, and support the creation of a new, innovative industry sector that can maximise use of pre-used materials.</p> <p>It is a potentially a win-win solution which could stimulate inclusive, economic growth and secure fair and equal access to materials and resources for communities and businesses across the country.</p>
Location of proposed national development (information in a	A complementary network of sites right across Scotland.

GIS format is welcome if available)	
What part or parts of the development requires planning permission or other consent?	Individual material and resource management facilities (including deposit return points if located in conservation areas or listed buildings) will require planning permission and waste management licences.
When would the development be complete or operational?	A staged and phased approach to creating the network. The operational circular economy network would remain constant.
Is the development already formally recognised – for example identified in a development plan, has planning permission, in receipt of funding etc.	This development will help to deliver the ambition of Scotland’s Zero Waste Plan and could represent a spatial expression of “ Making things last: a circular economy strategy for Scotland ”. It could identify the most appropriate locations for new infrastructure and networks that will be required to enable Scotland to transition to a circular economy and support the Circular Economy Bill objectives.
<p>Contribution of proposed national development to the national development criteria (maximum 500 words):</p> <p>The Material and Resource Management Facilities Network would contribute towards the national development criteria in the following ways:</p> <ul style="list-style-type: none"> • It could help to reduce emissions, contributing to Scotland’s target of net zero emissions by 2045, and could itself be emissions neutral, or emissions negative. <p>The proposal can achieve this by enabling the systemic reuse, repurposing, reprocessing and recycling of existing materials, which will replace (or displace) the need to manufacture new products from raw materials. By retaining the value of the material in Scotland, this will ensure that material that is sent to final disposal is minimised, reducing the emissions from incineration or landfill, and the embodied energy within materials can continue to be captured.</p> <ul style="list-style-type: none"> • It could support the health, wellbeing, sustainability, and quality of life of our current and future population. <p>These benefits could be brought about by the network reducing emissions from incineration or landfill, and capturing embodied energy within materials which reduces the need to use raw material and hence emissions associated with extracting and processing raw materials. Making the best use of what we have is an essential component of a successful circular economy, and the development of a network of reprocessing and repurposing, recycling and reuse facilities would enable this to happen.</p> <ul style="list-style-type: none"> • It could contribute to inclusive, sustainable economic growth that helps to reduce poverty and inequality across Scotland. 	

A national network of material and resource management facilities will enable new reuse, reprocessing and recycling facilities to be created, and will ensure that materials that could otherwise have been lost to the economy will be captured (and recaptured), with the value retained in Scotland.

- The development will protect or enhance the quality of a place or improve biodiversity

This will be achieved by reducing the volume of material that is sent to final disposal through incineration or landfill. Material that has been seen as “waste” will instead be seen to have a value, reducing the likelihood of material being improperly disposed of in a way that impacts negatively on biodiversity and the quality of places.



National Developments – Response Form

Name of proposed national development	Zero Carbon Innovation Zones
Brief description of proposed national development	<p>A network of sites that promote a transition from high carbon intensity industry and/or power generation to zero carbon innovation. A key objective would be to nurture and showcase new and emerging low and zero carbon technologies in a way that promotes inclusive growth and delivers wider place outcomes for local communities. For some areas this would result in bringing areas of blight and environmental challenge back into positive use.</p> <p>The benefits of designating a network of zones as opposed to individual sites include: complementarity, mutual support and shared learning. Together they could create a critical mass of innovation to fuel a green recovery, leveraging greater value for Scotland than the sum of their parts.</p> <p>As part of transition to net zero there is a great opportunity for a network of sites to be trailblazers in areas such as the recovery of geothermal heat from disused mine workings.</p> <p>SEPA is already working in partnership with stakeholders in Levenmouth, Grangemouth, Blindwells (Cockenzie) and Chapelcross (though the Borderlands Growth Deal) to support transition in these areas in a way that delivers environmental, social and economic success. Levenmouth, Grangemouth and Borderlands are all identified as place-based priority areas in SEPA’s 2020-2021 Annual Operating Plan, alongside Glasgow.</p>
Location of proposed national development (information in a GIS format is welcome if available)	Potential candidate sites for the network could include (but not necessarily exclusively): Grangemouth, Levenmouth, Blindwells (including Cockenzie), Longannet, and Chapelcross.

<p>What part or parts of the development requires planning permission or other consent?</p>	<p>The majority of development in these zones is likely to require planning consent. These could be taken forward as Masterplan Consent Areas to help facilitate flexibility in nurturing innovation. It is possible that some developments may require other environmental authorisations and consents.</p>
<p>When would the development be complete or operational?</p>	<p>Likely to be phased over next 10 years and differ from site to site. Ideas for some of these sites in relation to a zero carbon transition are more developed than others.</p>
<p>Is the development already formally recognised – for example identified in a development plan, has planning permission, in receipt of funding etc.</p>	<p>The potential areas mentioned above have been recognised in a range of plans from existing national developments to local plan allocations.</p>
<p>Contribution of proposed national development to the national development criteria (maximum 500 words):</p> <ul style="list-style-type: none"> • The development will help to reduce emissions, contributing to Scotland’s target of net zero emissions by 2045, will be emissions neutral, or emissions negative. <p>The central theme of this proposal is to facilitate a transition from carbon intensive industry to zero carbon by facilitating innovation in new technologies. The areas can also support wider ambitions for low carbon place by connecting local communities with employment through active travel links and creating opportunities for low carbon heat for example.</p> <ul style="list-style-type: none"> • The development will support the health, wellbeing, sustainability, and quality of life of our current and future population. <p>The proposal would improve the health and wellbeing of local communities by turning blight into opportunity and maximising the place benefits of future development in a way that improves health and wellbeing.</p> <ul style="list-style-type: none"> • The development will contribute to sustainable economic growth that helps to reduce poverty and inequality across Scotland. <p>This would be achieved by facilitating innovation and thereby nurturing a thriving green economy for low and zero carbon technologies. This could be undertaken in a way that brings benefits to communities most affected by the decline of carbon intensive industries, by creating access to new jobs and transforming blight into extraordinary places that reflect community needs and desires. They can also bring opportunities to reduce fuel poverty through innovation in low carbon heat such as geothermal heat recovery from disused mine workings.</p>	

- The development will protect or enhance the quality of a place or improve biodiversity

Maximising the wider place benefits of the zones should be a key requirement of this proposed national development. This should include linking into the wider blue/green network and meeting the 'Building with Nature' benchmark in a way that supports wider biodiversity recovery aspirations.



National Developments – Response Form

Name of proposed national development	National Green Network
Brief description of proposed national development	<p>A nationwide green network which extends the scope and geographical coverage of the current Central Scotland Green Network National Development - to deliver multiple benefits for all of Scotland whilst supporting Scotland's transition to net zero by 2045. Key benefits include improving quality of place across the country, delivering further step change in environmental quality, tackling biodiversity decline, strengthening climate change resilience, improving connectivity for communities and nature, and improving health and wellbeing. The network could help capitalise on regional-scale opportunities which exist across the country and which have the potential to deliver a wider range of complementary benefits for Scotland's water environment including:</p> <ol style="list-style-type: none"> 1. an integrated surface water management function which addresses the immediate and significant pressures on our urban drainage systems and delivers multiple social, economic and environmental benefits. The network could provide an overarching framework which builds on the excellent work of the Metropolitan Glasgow Strategic Drainage Partnership and helps drive forward newer initiatives such as the Edinburgh Strategic Drainage Partnership and the SEPA/Scottish Water Innovation trial for Aberdeen. 2. further strengthening Scotland's resilience to flood risk by integrating, at a strategic scale, 21st century flood risk and surface water management measures with wider priorities like peatland restoration and the regeneration of our urban centres. Some of our cities, such as Glasgow, face particular challenges in balancing the regeneration of vacant and derelict land with flood risk management.

	<p>A nationwide green network could also play a crucial role in tackling biodiversity decline in Scotland. Integrating the national ecological network (a landscape scale response to address Scotland's biodiversity crisis) into a national green network could be transformational. Increasing connectivity between and across our rural and urban areas could be a further key element of the proposal, with considerable potential to link the national green network with active travel routes, including the current National Cycling and Walking Network national development.</p>
<p>Location of proposed national development (information in a GIS format is welcome if available)</p>	<p>A national opportunity mapping exercise could help define the extent of the network to ensure that it delivered maximum benefit. This would help to create linkages with priorities identified in current and emerging national plans and strategies.</p>
<p>What part or parts of the development requires planning permission or other consent?</p>	<p>The network could be embedded into, and enhanced within, local development plan policy to help capitalise on delivery through masterplanning and other development opportunities.</p>
<p>When would the development be complete or operational?</p>	<p>This could be developed over the Plan's 10 year period.</p>
<p>Is the development already formally recognised – for example identified in a development plan, has planning permission, in receipt of funding etc.</p>	<p>The Central Scotland Green Network is already recognised as a very successful National Development. This proposal seeks to take it to a new level for the benefit of all of Scotland.</p>
<p>Contribution of proposed national development to the national development criteria (maximum 500 words):</p> <ul style="list-style-type: none"> • The development will help to reduce emissions, contributing to Scotland's target of net zero emissions by 2045, will be emissions neutral, or emissions negative. <p>By supporting integrated, sustainable drainage of our urban areas, the network could significantly reduce the carbon footprint of Scotland's water and waste-water management infrastructure. The proposal would facilitate landscape-scale protection and enhancement of carbon stores including peatland and woodland. Enhanced active travel infrastructure between and within regions would reduce emissions from transport.</p> <ul style="list-style-type: none"> • The development will support the health, wellbeing, sustainability, and quality of life of our current and future population. <p>Green infrastructure can have significant health benefits for Scotland's current and future population by improving the quality of and access to greenspace, keeping</p>	

our communities safe from flooding whilst reducing the wider impacts from flooding (like impacts on water quality), improving local air quality, encouraging active travel and supporting local food growing initiatives.

- The development will contribute to sustainable economic growth that helps to reduce poverty and inequality across Scotland.

Investment in green infrastructure can help reduce current and future liabilities on Scotland's economy and communities whilst increasing our resilience to the impacts of climate change. Disadvantaged communities are often disproportionately impacted by these impacts such as flood risk.

- The development will protect or enhance the quality of a place or improve biodiversity

Green infrastructure has the potential to significantly enhance the quality of places by increasing access to green space and improving urban realm. It could play a transformational role in tackling biodiversity decline if it is strategically planned to support the delivery of Scotland's biodiversity priorities.



National Developments – Response Form

Name of proposed national development	National Energy Infrastructure
Brief description of proposed national development	<p>Nationally significant energy infrastructure that is necessary to deliver Scotland’s transition to net zero and to facilitate an infrastructure-first approach to development.</p> <p>Ideally, this should cover the full scope of infrastructure needed including for energy storage, transmission, interconnectors and strategic electric vehicle charging points.</p>
Location of proposed national development (information in a GIS format is welcome if available)	Range of locations nationwide based upon input from infrastructure providers and relevant Agencies such as Transport Scotland.
What part or parts of the development requires planning permission or other consent?	It is likely that most of the infrastructure will require planning consent and/or consent under the Electricity Act or Marine (Scotland) Act 2010 and Part 4 of the UK Marine and Coastal Access Act 2009. Some activities may also require environmental regulation in areas under SEPA’s remit.
When would the development be complete or operational?	Phased over next 10 years in line with relevant national delivery programmes
Is the development already formally recognised – for example identified in a development plan, has planning permission, in receipt of funding etc.	The High Voltage Electricity Transmission Network and Pumped Hydroelectric Storage are designated as national developments in NPF3. The context and urgency for energy infrastructure to help address the climate emergency necessitates a review of Scotland’s strategic energy infrastructure requirements over the next 10 years.

Contribution of proposed national development to the national development criteria (maximum 500 words):

- The development will help to reduce emissions, contributing to Scotland's target of net zero emissions by 2045, will be emissions neutral, or emissions negative.

Securing a range of nationally significant energy infrastructure will be pivotal to achieving net zero emissions by 2045.

- The development will support the health, wellbeing, sustainability, and quality of life of our current and future population.

Provision of reliable and resilient energy infrastructure is fundamental to the sustainability and wellbeing of our current and future population.

- The development will contribute to sustainable economic growth that helps to reduce poverty and inequality across Scotland.

An infrastructure-first approach to energy infrastructure can help unlock future development needs and development potential and thereby support inclusive economic growth. Infrastructure in the right place can help address regional disparities in growth ensuring that the transition to zero carbon is inclusive and just.

- The development will protect or enhance the quality of a place or improve biodiversity

National infrastructure provision can be undertaken in a way that considers wider place benefits to meet community needs, enhances quality of place and realises opportunities to deliver benefits for biodiversity.



National Developments – Response Form

Name of proposed national development	Carbon Capture and Storage
Brief description of proposed national development	<p>Roll forward and update of the current national development for Carbon Capture and Storage (CCS) to reflect the changed context since 2014. Scotland’s Climate Change Plan recognises a need to implement CCS to help meet our emission reduction ambitions. NPF4 should support implementation of this nationally significant development through continued designation as a national development. The scope of the national development should also include supporting connecting pipeline infrastructure from industry to the CCS facility and space for associated infrastructure requirements on industrial sites to install CCS equipment.</p> <p>SEPA supports the government programme for demonstrating CCS to test and assess the potential contribution of this technology at a commercial scale. SEPA believes it is essential that demonstration projects are designed to provide data and scientific outputs that will further the development of the technology and improve public understanding.</p>
Location of proposed national development (information in a GIS format is welcome if available)	We are currently supporting the trial site at St Fergus. A site for full implementation is still to be identified.
What part or parts of the development requires planning permission or other consent?	All aspects of terrestrial development would require planning permission. Other elements would require other consents under marine licensing and environmental regulation under SEPA’s remit.
When would the development be complete or operational?	This would depend on any implementation programme
Is the development already formally recognised – for example identified in a development plan, has planning permission, in receipt of funding etc.	Yes this is already a national development in the current NPF3.

Contribution of proposed national development to the national development criteria (maximum 500 words):

- The development will help to reduce emissions, contributing to Scotland's target of net zero emissions by 2045, will be emissions neutral, or emissions negative.

Carbon capture and storage is identified in Scotland's Climate Change Plan as one of the actions needed to achieve our emission reduction targets.

- The development will support the health, wellbeing, sustainability, and quality of life of our current and future population.

Reducing carbon emissions will have a long term positive impact on the health and wellbeing and quality of life of our population as the impacts of climate change on our communities would be lessened.

- The development will contribute to sustainable economic growth that helps to reduce poverty and inequality across Scotland.

Supporting innovation in CCS technology can help deliver sustainable economic growth.

- The development will protect or enhance the quality of a place or improve biodiversity

Reducing carbon emissions will have long term positive effects on place and biodiversity.